REMARKS

The examiner has rejected claims 1-78 as being anticipated by Ward et al (US Patent 5,491,495). The Applicant submits that the system disclosed in Ward is fundamentally different from the claimed invention.

The Ward system works via the interaction of a stylus and an active, sensing, electronic digitising tablet. When the stylus comes into contact with the tablet, the tablet senses the position of the stylus on the tablet surface in order to receive input from the user. See col. 4, lines 16-24 and col. 7, lines 1-39. In this way, the tablet plays an active role in identifying the position of the stylus.

In contrast, the "*interface surface*" of the claimed invention is a passive surface, which does not contain electronics and which does not sense the presence or absence of the "*sensing device*" on its surface. Instead, the "*interface surface*" of the claimed invention is defined as including "*coded data indicative of a text field.*" In order to receive information from a user, the "*sensing device"* senses "*indicating data indicative of a text field*" and sends both *"indicating data*" and *"movement data"* to the computer system. In the claimed invention, therefore, the sensing device is the active device and the interface surface is passive, merely containing the "*coded data indicative of a text field.*"

Since Ward does not disclose an interface surface which contains "*information relating to the computer software and including coded data indicative of a text field"* the Applicant submits that claims 1, 29 and 56 are not anticipated by Ward. Consequently, dependant claims 2-28, 30-55 and 57-78 are also not anticipated by Ward.

The Applicant requests that the Examiner reconsider his objections in light of these arguments.

New claims 79 to 148 have been added. These claims mirror the claims accepted by the International Examining Authority in the PCT application corresponding to the present application, except that multiple dependencies have been removed from this set of claims. The Applicant submits that these claims introduce no new matter.

CONCLUSION

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

Applicant: 

KIA SILVERBROOK

C/o: Silverbrook Research Pty Ltd
393 Darling Street
Balmain NSW 2041, Australia

Email: kia@silverbrook.com.au

Telephone: +612 9818 6633

Facsimile: +61 2 9818 6711

Market-up specification

HANDWRITTEN TEXT CAPTURE VIA INTERFACE SURFACE

FIELD OF INVENTION

The present invention relates to a method and system for enabling user interaction with computer software running in a computer system.

The invention has been developed primarily to provide the basis for a surface-based interface which allows a user to interact with networked information and to obtain interactive printed matter on demand via high-speed networked color printers. Although the invention will largely be described herein with reference to this use, it will be appreciated that the invention is not limited to use in this field.

CO-PENDING APPLICATIONS

Various methods, systems and apparatus relating to the present invention are disclosed in the following co-pending applications filed by the applicant or assignee of the present invention simultaneously with the present application:

NPA001US, NPA002US, ~~NPA003US,~~ NPA004US, NPA005US, NPA006US, NPA007US, NPA008US, NPA009US, NPA010US, NPA012US, NPA016US, NPA017US, NPA018US, NPA019US, NPA020US, NPA021US, NPA030US, NPA035US, NPA048US, ~~NPA050US, NPA051US~~, NPA052US, NPA075US, NPB001US, NPB002US, NPK002US, NPK003US, NPK004US, NPK005US, ~~NPK007US~~, NPM001US, NPM002US, NPM003US, NPM004US, NPN001US, ~~NPN002US~~, ~~NPN003US~~, NPP001US, ~~NPP002US~~, NPP003US, NPP005US, NPP006US, NPP007US, NPP008US, NPP016US, NPP017US, NPP018US, ~~NPP019US~~, NPS001US, NPS003US, NPS020US, NPT001US, NPT002US, NPT003US, NPT004US, NPX001US, NPX003US, NPX008US, NPX011US, NPX014US, NPX016US, ~~NPX020US~~, ~~NPX022US,~~ IJ52US, IJM52US, MJ10US, MJ11US, MJ12US, MJ13US, MJ14US, MJ15US, MJ34US, MJ47US, ~~MJ52US,~~ MJ58US, MJ62US, MJ63US, PAK04US, PAK05US, PAK06US, PAK07US, PAK08US, PEC01US, PEC02US.

US Serial numbers inserted

The disclosures of these co-pending applications are incorporated herein by ~~cross~~-reference. ~~Each application is temporarily identified by its docket number. This will be replaced by the corresponding USSN when available.~~

Marked-up claims

CLAIMS

1. A method of enabling user interaction with computer software running in a computer system via:

an interface surface containing information relating to the computer software and including coded data indicative of a text field; and

a sensing device which, when placed in an operative position relative to the interface surface, senses indicating data indicative of the text field and generates movement data indicative of the sensing device's movement relative to the interface surface;

the method including the steps of, in the computer system:

(a) receiving the indicating data from the sensing device;

(b) receiving the movement data from the sensing device;

(c) identifying the text field from the indicating data; and

(d) operating the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

2. A method according to claim 1, the method further including the steps of, in the computer system, performing text recognition on the handwritten user input, thereby to generate computer text.

3. A method according to claim 1, including the step of sending, in the computer system, data to the computer software indicative of at least the text field.

5. 4 A method according to claim 1, wherein the text field is associated with a visible text zone defined on the interface surface.

~~6.~~ 5 A method according to claim 2, further including the step of, in the computer system, recognising whether the movement data is indicative of an text editing command drawn onto the surface by the user.

~~7.~~ 6 A method according to claim 6, wherein, in the event that an editing command is recognised, operating the computer system in accordance with instructions associated with the editing command.

~~8.~~ 7 A method according to claim 5, wherein the editing command is selected from the following group:

strikeout;

underlining;

cutting;

pasting; and

relocation.

~~9.~~ 8 A method according to claim 8, wherein the editing command is applied to computer text associated with the text field.

~~10.~~ 9 A method according to claim 8, wherein the editing command is applied to one or more letters, words or paragraphs.

~~11.~~ 10 A method according to any one of claims 1 to 10, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

~~12.~~ 11 A method according to claim 11, further including the step of generating movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

~~13.~~ 12 A method according to claim 12, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

~~14.~~ 13 A method according to claim 12 or 13, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

~~15.~~ 14 A method according to any one of claims 1 to 10, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the method including the step of generating the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

~~16.~~ 15 A method according to claim 15, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

~~17.~~ 16 A method according to claim 15, wherein the position elements are disposed on the surface stochastically.

~~18.~~ 17 A method according to any one of claims 1 to 10, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

~~19.~~ 18 A method according to claim 18, wherein the motion sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within the sensing device.

~~20.~~ 19 A method according to claim 19, wherein components of rotation of the rollerball, due to movement of the sensing device when writing the handwritten user input onto the surface, are periodically measured.

~~21.~~ 20 A method according to claim 20, wherein the components of rotation of the rollerball due to movement of the sensing device by the user when writing the handwritten user input onto the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

~~22.~~ 21. A method according to any one of claims 1 to 10, wherein the coded data includes at least one tag, each tag being indicative of the signature field.

~~23.~~ 22 A method according to claim 22, wherein the tags are also indicative of points within the signature field.

~~24.~~ 23 A method according to claim 23, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

second identity data identifying the signature field.

~~25.~~ 24 A method according to claim 24, wherein the relative position is defined in relation to the signature field.

~~26.~~ 25 A method according to claim 24, wherein the relative position is defined in relation to a plurality of the other tags.

~~27.~~ 26 A method according to claim 24, wherein the relative position is defined in relation to the interface surface.

~~28.~~ 27 A method according to claim 24, wherein the first identity data identifies stored information defining the relative position, the stored information not being stored on the interface surface.

~~29.~~ 28 A method according to claim 28, wherein the first identity data and the second identity data together identify stored information defining the relative position.

~~30.~~ 29 A system for enabling user interaction with computer software running in a computer system via:

an interface surface containing information relating to the computer software and including coded data indicative of a text field; and

a sensing device which, when placed in an operative position relative to the interface surface, senses indicating data indicative of the text field and generates movement data indicative of the sensing device's movement relative to the interface surface;

the computer system being configured to:

(a) receive the indicating data from the sensing device;

(b) receive the movement data from the sensing device;

(c) identify the text field from the indicating data; and

(d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

~~31.~~ 30 A system according to claim 30, wherein the computer system is configured to perform text recognition on the handwritten user input, thereby to generate computer text.

~~32.~~ 31 A system according to claim 30, wherein the computer system is configured to send data to the computer software indicative of at least the text field.

~~33.~~ 32 A system according to claim 31, further including the step of, in the computer system, recognising whether the movement data is indicative of an editing command drawn onto the surface by the user.

~~34.~~ 33 A system according to claim 33, wherein, in the event that an editing command is recognised, operating the computer software in accordance with instructions associated with the editing command.

~~35.~~ 34 A system according to claim 33, wherein the editing command is selected from the following group in relation to text:

strikeout;

underlining;

cutting;

pasting; and

relocation.

~~36.~~ 35 A system according to claim 35, wherein the editing command is applied after

the conversion into computer text.

36
~~37.~~ A system according to any one of claims 30 to 36, wherein the text field is associated with a visible text zone defined on the interface surface.

37
~~38.~~ A system according to any one of claims 30 to 36, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

38
~~39.~~ A system according to claim 38, the system being configured to generate movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

39
~~40.~~ A system according to claim 39, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

40
~~41.~~ A system according to claim 39 or 40, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

41
~~42.~~ A system according to any one of claims 30 to 36, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the system being configured to generate the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

~~43.~~ 42 A system according to claim 31, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

~~44.~~ 43 A system according to claim 31, wherein the position elements are disposed on the surface stochastically.

~~45.~~ 44 A system according to any one of claims 30 to 36, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

~~46.~~ 45 A system according to claim 35, wherein the motion sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within the sensing device.

~~47.~~ 46 A system according to claim 26, wherein components of rotation of the rollerball, due to movement of the sensing device when writing the handwritten user input onto the surface, are periodically measured.

~~48.~~ 47 A system according to claim 37, wherein the components of rotation of the rollerball due to movement of the sensing device by the user when writing the handwritten user input onto the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

48. A system according to any one of claims 24 to 26, wherein the coded data includes at least one tag, each tag being indicative of the signature field.

49. A system according to claim 49, wherein the tags are also indicative of points within the signature field.

50. A system according to claim 50, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

second identity data identifying the signature field.

51. A system according to claim 51, wherein the relative position is defined in relation to the signature field.

52. A system according to claim 51, wherein the relative position is defined in relation to a plurality of the other tags.

53. A system according to claim 51, wherein the relative position is defined in relation to the interface surface.

54. A system according to claim 51, wherein the first identity data identifies stored information defining the relative position, the stored information not being stored on the interface surface.

55. A system according to claim 55, wherein the first identity data and the second identity data together identify stored information defining the relative position.

56. A system for enabling user interaction with computer software running in a

computer system, the system including:

an interface surface containing information relating to the computer software and including coded data indicative of a text field relating to the computer software;

the system being configured to, in the computer system:

(a) receive indicating data from a sensing device, the indicating data being indicative of the text field, wherein the sensing device, when placed in an operative position relative to the interface surface, senses the indicating data and generates movement data indicative of the sensing device's movement relative to the interface surface;

(b) receive the movement data from the sensing device;

(c) identify the text field on the basis of the indicating data; and

(d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

~~58.~~ 57 A system according to claim 57, the computer system being configured to perform text recognition on the handwritten user input, thereby to generate computer text.

~~59.~~ 58. A system according to claim 57, the computer system being configured to send data to the computer software indicative of at least the text field.

~~60.~~ 59 A system according to claim 57, the computer system being configured to recognise whether the movement data is indicative of an text editing command drawn onto the surface by the user.

~~61.~~ 60 A system according to claim 60, wherein, in the event that an editing command is recognised, operating the computer system in accordance with instructions associated with the editing command.

61
~~62.~~ A method according to claim 60, wherein the editing command is selected from the following group:

strikeout;

underlining;

cutting;

pasting; and

relocation.

62
~~63.~~ A method according to claim 62, wherein the editing command is applied to computer text associated with the text field.

63
~~64.~~ A method according to claim 63, wherein the editing command is applied to one or more letters, words or paragraphs.

64
~~65.~~ A system according to any one of claims 30 to 36, wherein the computer system is configured to send data to the computer software indicative of at least the text field.

65
~~66.~~ A system according to any one of claims 30 to 36, wherein the text field is associated with a visible text zone defined on the interface surface.

66
~~67.~~ A system according to any one of claims 30 to 36, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

67
~~68.~~ A system according to claim 77, the system being configured to generate movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

68
~~69.~~ A system according to claim 68, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

69
~~70.~~ A system according to claim 68 or 69, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

70
~~71.~~ A system according to any one of claims 30 to 36, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the system being configured to generate the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

71
~~72.~~ A system according to claim 71, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

72
~~73.~~ A system according to any one of claims 30 to 36, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

73
~~74.~~ A system according to any one of claims 30 to 36, wherein the coded data includes at least one tag, each tag being indicative of the signature field.

74
~~75.~~ A system according to claim 74, wherein the tags are also indicative of points within the signature field.

75
~~76.~~ A system according to claim 75, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

second identity data identifying signature field.

76
~~77.~~ A system according to claim 76, wherein the relative position is defined in relation to the signature field.

77
~~78.~~ A system according to claim 76, wherein the relative position is defined in relation to a plurality of the other tags.

78
~~79.~~ A system according to claim 76, wherein the relative position is defined in relation to the interface surface.

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79
~~80~~ A method to enable a user to interact with computer software running in a computer system utilizing a form printed onto a surface, the form including information relating to the computer software, the surface having coded data indicative of a text field relating to the computer software, the method including the steps of:

providing the form to the user;

receiving, in the computer system, indicating data and movement data from a sensing device, the indicating data indicative of the text field, the movement data indicative of movement of the sensing device relative to the form, the sensing device, when placed operatively relative to the text field, generating the indicating data based at least partially on sensing at least some of the coded data and substantially simultaneously generating the movement data; and

80. The method of claim 79, which includes printing the form in response to receiving, in the computer system, a request for the form.

81. The method of claim 79, which inlcudes causing the form and the coded data to be printed onto the surface substantially simultaneously.

82. The method of claim 79, including the step of performing text recognition on the movement data to generate computer text.

83. The method of claim 79 further including the step of, in the computer system, recognizing whether the movement data is indicative of a text editing command drawn on the surface by the user.

84. The method of claim 83 wherein, in the event that the editing command is recognized, operating the computer system in accordance with instructions associated with the editing command.

85. The method of claim 83 wherein the editing command is selected from one of the following group: strickout, underlining, cutting, pasting; and relocation.

86. The method of claim 84 wherein the editing command is applied to computer text associated with the text field.

87. The method of claim 84 wherein the editing command is applied to one or more letters, words or paragraphs.

88. The method of claim 79, inlcuding the step of identifying the user.

89. The method of claim 88, wherein the step of identifying the user includes using the movement data.

90. The method of claim 88, further including the step of receiving, in the computer system, data indicative of an identity of the user.

91. The method of claim 79, further including the step of receiving, in the computer system, data from storage of the sensing device, the data being indicative of an identity of the user.

92. The method of claim 79, including the step of sending, in the computer system, data to the computer software indicative of at least the text field.

93. The method of claim 79, wherein the text field is associated with a visible text zone defined on the surface.

94. The method of claim 79, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used on the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used on the surface.

95. The method of claim 79, further including the step of generating movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

96. The method of claim 95, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

97. The method of claim 94, wherein the acceleration measuring device includes one or more accelerometers configured to meansure at least two orthogonal components of

acceleration.

98. The method of claim 79, wherein elements are disposed on the surface, the sensing device being configured to periodically sense the elements as it is used on the surface, the method including the step of generating the movement data by ascertaining relative displacement of the sensing means over time with respect to at least one of the elements.

99. The method of claim 98, wherrein the element are disposed on the surface as a regular array of dots, lines or other formations.

100. The method of claim 98, wherein the elements are disposed on the surface stochastically.

101. The method according to claim 98, wherein the coded data includes the elements.

102. The method of claim 79, wherein the movemenbt data is generated by ascertaining relative ration of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used thereon.

103. The method of claim 102 wherein the motion sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within the sensing device.

104. The method of claim 103, wherein components of rotation of the rollerball, due to movement of the sensing device on the surface, are periodically measured.

105. The method of claim 104, wherein the components of rotation of the rollerball due to movement of the sensing device on the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

106. The method of claim 79, wherein the coded data is indicative of a plurality of positions, in or associated with the text field.

107. The method of claim 79, wherein the coded data includes a plurality of tags, each of which includes tag data.

108. The method of claim 107, including deriving the relative position of at least one tag using at least some of the at least one tag's tag data.

109. The method of claim 108, wherein the relative position is defined in relation to one of the group comprising: a plurality of other tags, the surface, the text field, and a zone associated with the text field.

110. The method of claim 107, including deriving an identity of the text field using at least some of the tag data of at least one tag.

111. The method of claim 110, wherein the data from which the identity of the text field is derived is the same in all tags of the same text field.

112. A system for enabling a user to interact with computer softrware running in a computer system utilizing a form printed onto a surface, the form including information relating to the computer software, the surface having coded data indicative of a text field ralating to the computer software, the system including:

a computer system which:

receives indicating data and movement data from a sensing device, the indicating data indicative of a text field relating to the computer software and the movement data indicative of movement of the sensing device relative to the form, the sensing device, when placed operatively relative to the text field, generating the indicating data based at

least partially on sensing at least some of the coded data and substantially simultaneously generating the movement data;

identifies, from the indicating data, the text field, and

operates the computer software at least partially based on reliance on the movement data and instructions associated with the text field.

113. The system of claim 112 including a printer for printing the form in response to receiving, in the computer system, a request for the form.

114. The system of claim 112 including a printer for printing the form, and in which the printer prints the coded data at substantialy the same time as the form.

115. The system of claim 112 including the step of performing text recognition on the movement data to generate computer text.

116. The system of claim 112 further including the step of, in the computer system, recognizing whether the movement data is indicative of a text editing command drawn on the surface by the user.

117. The system of claim 116 wherein, in the event that the editing command is recognized, operating the computer system in accordance with instructions associated with the editing command.

118. The system of claim 116 wherein the editing command is selected from one of the following group: strikeout, underlining, cutting, pasting; and relocation.

119. The system of claim 116 wherein the editing command is applied to computer text associated with the text field.

120. The system of claim 116 wherein the editing command is applied to one or more letters, words or paragraphs.

121. The system of claim 112, wherein the computer system is configured to identify the user.

122. The system of claim 121, wherein the computer system is configured to identify the user by using the movement data.

123. The system of claim 121, wherein the computer system is configured to receive data indicative of an identity of the user.

124. The system of claim 112, wherein the computer system is configured to receive identity data from storage of the sensing device, the identity data being indicative of an identity of the user.

125. The system of claim 112, wherein the computer system is configured to send data to the computer software indicative of at least the text field.

126. The system of claim 112, wherein the text field is associated with a visible text zone defined on the surface.

127. The system of claim 112 which includes the sensing device.

128. The system of claim 127 wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used on the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used on the surface.

129. The system of claim 127, wherein the sensing device generates movement data in the form of a lucus of the sensing means in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

130. The system of claim 129, wherein the relative displacement is obtained by doubly integrating acceleration with respect to time.

131. The system of claim 128, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

132. The system of claim 127, wherein elements are disposed on the surface, the sensing device being configured to periodically sense the elements as it is used on the surface, the movement data being generated by ascertaining relative displacement of the sensing means over time with respect to at least one of the elements.

133. The system of claim 132, wherein the elements are disposed on the surface as a regular array of dots, lines or other formations.

134. The system of claim 132, wherein the elements are disposed on the surface stochastically.

135. The system of claim 132 wherein the coded data includes the elements.

136. The system of claim 127, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used thereon.

137. The system of claim 136, wherein the motion sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within

the sensing device.

138. The system of claim 137, wherein components of rotation of the rollerball, due to movement of the sensing device when used on the surface, are periodically measured.

139. The system of claim 138, wherein the components of rotation of the rollerball due to movement of the sensing device by the user when used on the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

140. The system of claim 132, wherein the coded data is indicative of a plurality of positions in or associated with the text field.

141. The system of claim 132, wherein the coded data includes a plurality of tags, each of which includes tag data.

142. The system of claim 141, wherein the computer system is configured to derive the relative position of at least one tag using at least some of the tag data of the at least one tag.

143. The system of claim 142, wherein the relative position is defined in relation to one of the following group: a plurality of other tags, the surface, the text field, and a zone associated with the text field.

144. The system of claim 140, where the computer system is configured to derive an identity of the text field using at least some of the tag data of at least one tag.

145. The system of claim 144, wherein the data from which the identity of the text field

is derived is the same in all the tags of the same text field.

146. The system of claim 128 when dependent on claim 127 wherein the sensing device includes a marking nib.

147. The system of claim 128 when dependent on claim 127 wherein the sensing device contains identity information which imparts a unique identity to the sensing device.

148. The system of claim 147 when dependent on claim 124, wherein the identity data includes the identity of the sensing device.